

SEQUENCE LISTING

<110> Cahoon, Rebecca E.
 Gutteridge, Steven
 Lee, Jian Ming
 Rafalski, Antoni

<120> Ornithine Biosynthesis Enzymes

<130> BB-1174

<140> US/09/744,100

<141> 2001-01-18

<150> 60/093,209

<151> 1998-07-17

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<210> 1

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<212> DNA

<213> Zea mays

<400> 1

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cacggctgcg	ccgtctcctt	cgtcggctgc	cgctgccacc	gcgtcgtga	gtcgagtgga	240
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gtacggcggg	gcggcgatga	agtcgccgga	gctgcaggcg	tccgtgatcc	gcgatctcgt	360
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<210> 2

<211> 345

<212> PRT

<213> Zea mays

<400> 2

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			20					25					30		

Leu Ala Ala Pro Thr Cys Arg Arg Ser Arg Leu Arg Ile Ser Ala Thr
 35 40 45
 Ser Thr Ala Ala Pro Ser Pro Ser Ser Ala Ala Ala Ala Thr Ala Ser
 50 55 60
 Leu Ser Arg Val Asp Val Leu Ser Glu Ala Leu Pro Phe Ile Gln Arg
 65 70 75 80
 Phe Lys Gly Lys Thr Val Val Val Lys Tyr Gly Gly Ala Ala Met Lys
 85 90 95
 Ser Pro Glu Leu Gln Ala Ser Val Ile Arg Asp Leu Val Leu Leu Ser
 100 105 110
 Cys Val Gly Leu Arg Pro Val Leu Val His Gly Gly Gly Pro Glu Ile
 115 120 125
 Asn Ser Trp Leu Leu Arg Val Gly Val Glu Pro Gln Phe Arg Asp Gly
 130 135 140
 Leu Arg Val Thr Asp Ala Leu Thr Met Glu Val Val Glu Met Val Leu
 145 150 155 160
 Val Gly Lys Val Asn Lys Asn Leu Val Ser Leu Ile Asn Ile Ala Gly
 165 170 175
 Gly Thr Ala Ile Gly Leu Cys Gly Lys Asp Ala Arg Leu Ile Thr Ala
 180 185 190
 Arg Pro Ser Pro Asn Ala Ala Ala Leu Gly Phe Val Gly Glu Val Ser
 195 200 205
 Arg Val Asp Ala Thr Val Leu His Pro Ile Ile Ala Ala Gly His Ile
 210 215 220
 Pro Val Ile Ala Thr Val Ala Ala Asp Glu Thr Gly Gln Ala Tyr Asn
 225 230 235 240
 Ile Asn Ala Asp Thr Ala Ala Gly Glu Ile Ala Ala Ala Val Gly Ala
 245 250 255
 Glu Lys Leu Leu Leu Leu Thr Asp Val Ser Gly Ile Leu Ala Asp Arg
 260 265 270
 Asn Asp Pro Gly Ser Leu Val Lys Val Val Asp Ile Ala Gly Val Arg
 275 280 285
 Lys Met Val Ala Asp Gly Lys Val Ala Gly Gly Met Ile Pro Lys Val
 290 295 300
 Glu Cys Cys Val His Ala Leu Ala Gln Gly Val His Thr Ala Ser Ile
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 Ile Asp Gly Arg Val Pro His Ser Leu Leu Leu Glu Ile Leu Thr Asp
 325 330 335
 Glu Gly Thr Gly Thr Met Ile Thr Gly
 340 345

<210> 3
 <211> 1186
 <212> DNA
 <213> Oryza sativa

<220>
 <221> unsure
 <222> (613)
 <223> n=A, C, G, or T

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 ggcgatgaag tcgcccggagc tccaggcttc agtgatccgc gacctgggtc tcctctcgtg 360
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 <211> 343
 <212> PRT
 <213> Oryza sativa

<220>
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 <222> (195)
 <223> Xaa=ANY AMINO ACID

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 20 25 30
 Ala Ala Ser Pro Ala Pro Arg Arg Cys Leu Arg Leu Ala Val Thr Ser
 35 40 45
 Ala Ala Ala Pro Ala Ala Ser Ser Ala Glu Ala Ala Ala Ala Leu Ser
 50 55 60
 Arg Val Asp Val Leu Ser Glu Ala Leu Pro Phe Ile Gln Arg Phe Lys
 65 70 75 80
 Gly Lys Thr Val Val Val Lys Tyr Gly Gly Ala Ala Met Lys Ser Pro


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ccacggcggc ggccccgaga tcaactcctg gtcggcgccg ctcaacatcc ccgccgtctt 420
ccgcgacggc ctccgcgtca ccgacgccga caccatggag atcgtctcca tggctcctgt 480
cggaaaagtc aacaaaaccc tagtttctct aattaacaag gccggcgcca ccgccgtcgg 540
cctctctggc atggacggcc gcctcctcac cgcccgcccc gctcccaagg ccgccgacct 600
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<210> 6
<211> 342
<212> PRT
<213> Glycine max

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              20              25              30

Pro Ser Thr Arg Leu Arg His Arg Ala Ile Ser Ala Val Ala Asn Ala
              35              40              45

Ala Gln Pro Pro Leu Ala Ala Ala Thr Ala Thr Glu Gly Gln Tyr Arg
  50              55              60

Val Asp Val Leu Ser Glu Ser Leu Pro Phe Ile Gln Lys Phe Arg Gly
  65              70              75              80

Lys Thr Ile Val Val Lys Tyr Gly Gly Ala Ala Met Lys Ser Pro Glu
              85              90              95

Leu Gln Ala Ser Val Ile Asn Asp Leu Val Leu Leu Ser Cys Val Gly
              100              105              110

Leu Arg Pro Val Leu Val His Gly Gly Gly Pro Glu Ile Asn Ser Trp
              115              120              125

Leu Gly Arg Leu Asn Ile Pro Ala Val Phe Arg Asp Gly Leu Arg Val
              130              135              140

Thr Asp Ala Asp Thr Met Glu Ile Val Ser Met Val Leu Val Gly Lys
              145              150              155              160

Val Asn Lys Thr Leu Val Ser Leu Ile Asn Lys Ala Gly Ala Thr Ala
              165              170              175

Val Gly Leu Ser Gly Met Asp Gly Arg Leu Leu Thr Ala Arg Pro Ala
              180              185              190

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Pro Lys Ala Ala Asp Leu Gly Tyr Val Gly Glu Val Ala Arg Val Asp
195 200 205

Pro Ala Val Leu Arg Ser Leu Ile Asp Thr Ser His Ile Pro Val Val
210 215 220

Thr Ser Val Ala Ala Asp Glu Ser Gly Gln Pro Tyr Asn Ile Asn Ala
225 230 235 240

Asp Thr Val Ala Gly Glu Leu Ala Ala Ser Leu Gly Ala Glu Lys Leu
245 250 255

Ile Leu Leu Thr Asp Val Ala Gly Ile Leu Glu Asp Arg Asn Asp Pro
260 265 270

Asp Ser Leu Val Lys Lys Ile Asp Ile Lys Gly Val Lys Lys Met Met
275 280 285

Glu Asp Gly Lys Val Gly Gly Gly Met Ile Pro Lys Val Asn Cys Cys
290 295 300

Val Arg Ser Leu Ala Gln Gly Val Ile Thr Ala Ser Ile Ile Asp Gly
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Arg Val Pro His Ser Leu Leu Leu Glu Ile Leu Thr Asp Glu Gly Ala
325 330 335

Gly Thr Met Ile Thr Gly
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<210> 7
<211> 1246
<212> DNA
<213> Triticum aestivum

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<222> (492)..(542)
<223> n=A, C, G, or T

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<212> PRT
<213> Triticum aestivum

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<222> (133)
<223> Xaa=ANY AMINO ACID

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<222> (144)..(160)
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35 40 45
Ser Leu Ala Pro Ala Gln Ala Ala Ser Ala Ala Leu Asn Arg Val Asp
50 55 60
Val Leu Ser Glu Ala Leu Pro Phe Ile Gln Arg Phe Lys Gly Lys Thr
65 70 75 80
Val Val Val Lys Tyr Gly Gly Ala Ala Met Lys Ser Pro Glu Leu Gln
85 90 95
Ala Ser Val Ile Arg Asp Leu Val Leu Leu Ser Cys Val Gly Leu Arg
100 105 110
Pro Val Leu Val His Gly Gly Gly Pro Glu Ile Asn Ser Trp Leu Gln
115 120 125
Arg Val Gly Val Xaa Pro Gln Phe Arg Asn Gly Leu Arg Val Thr Xaa
130 135 140
Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa Xaa
145 150 155 160
Lys Gln Leu Leu Ser Leu Ile Arg Pro Ala Gly Thr Thr Ala Val Gly
165 170 175
Leu Cys Arg Lys Asp Gly Arg Ile Leu Thr Glu Arg Pro Ser Pro Asp
180 185 190
Ala Ala Ala Leu Gly Phe Val Gly Glu Val Thr Arg Lys Asn Pro Ser
195 200 205
Val Leu His Pro Ile Ile Ala Ser Ser His Ile Pro Val Ile Ala Thr
210 215 220

Val Ala Ala Asp Glu Thr Gly Gln Ala Tyr Asn Ile Asn Ala Asp Thr
 225 230 235 240
 Ala Ala Gly Glu Ile Ala Ala Ala Ile Gly Ala Glu Lys Leu Leu Leu
 245 250 255
 Ile Thr Asp Val Ser Gly Ile Leu Ala Asp Arg Asp Asp Pro Gly Ser
 260 265 270
 Leu Val Lys Glu Ile Asp Ile Ala Gly Val Arg Arg Met Val Ala Glu
 275 280 285
 Gly Lys Val Gly Gly Gly Met Ile Pro Lys Val Gly Cys Cys Val Arg
 290 295 300
 Ala Leu Ala Gln Gly Val His Thr Ala Ser Ile Ile Asp Gly Arg Val
 305 310 315 320
 Pro His Ser Leu Leu Leu Glu Ile Leu Thr Asp Glu Gly Thr Gly Thr
 325 330 335
 Met Ile Thr Gly
 340

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 <212> DNA
 <213> Triticum aestivum

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 aaaaaaaaaa aaaaaaaaaa 439

<210> 10
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 <212> PRT
 <213> Triticum aestivum

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 Leu Val Lys Glu Ile Asp Ile Ala Gly Val Arg Gln Met Val Ser Gly
 35 40 45
 Gly Gln Val Ala Gly Gly Met Ile Pro Lys Val Glu Cys Cys Val Arg
 50 55 60
 Ala Leu Ala Gln Gly Val His Thr Ala Ser Ile Ile Asp Gly Arg Val
 65 70 75 80

Pro His Ser Leu Leu Leu Glu Ile Leu Thr Asp Glu Gly Thr Gly Thr
85 90 95

Met Ile Thr Gly
100

<210> 11
<211> 297
<212> PRT
<213> Synechocystis sp.

<400> 11
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Lys Ile Leu Ser Glu Ala Leu Pro Tyr Ile Gln His Phe Ala Gly Arg
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Thr Val Val Val Lys Tyr Gly Gly Ala Ala Met Lys Asp Ser Asn Leu
35 40 45

Lys Asp Lys Val Ile Arg Asp Ile Val Phe Met Ala Ser Val Gly Ile
50 55 60

Arg Pro Val Val Val His Gly Gly Gly Pro Glu Ile Asn Thr Trp Leu
65 70 75 80

Asp Lys Val Gly Ile Glu Pro Gln Phe Lys Asp Gly Leu Arg Val Thr
85 90 95

Asp Ala Ala Thr Met Asp Ile Val Glu Met Val Leu Val Gly Arg Val
100 105 110

Asn Lys Glu Leu Val Asn Leu Ile Asn Gln Ala Gly Gly Lys Ala Val
115 120 125

Gly Leu Cys Gly Lys Asp Gly Gln Leu Met Thr Ala Arg Thr Met Thr
130 135 140

Asn Lys Asp Val Gly Phe Val Gly Glu Val Ser Ser Val Asp Ala Arg
145 150 155 160

Val Val Glu Thr Leu Val Lys Ser Gly Tyr Ile Pro Val Ile Ser Ser
165 170 175

Val Ala Ala Asp Glu Phe Gly Gln Ala His Asn Ile Asn Ala Asp Thr
180 185 190

Cys Ala Gly Glu Leu Ala Ala Ala Leu Gly Ala Glu Lys Leu Ile Leu
195 200 205

Leu Thr Asp Thr Arg Gly Ile Leu Arg Asp Tyr Lys Asp Pro Ser Thr
210 215 220

Leu Ile His Lys Leu Asp Ile Gln Gln Ala Arg Glu Leu Ile Gly Ser
225 230 235 240

Gly Ile Val Ala Gly Gly Met Ile Pro Lys Val Thr Cys Cys Val Arg
245 250 255

Ser Leu Ala Gln Gly Val Arg Ala Ala His Ile Leu Asp Gly Arg Leu
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Pro His Ala Leu Leu Leu Glu Val Phe Thr Asp Leu Gly Ile Gly Ser
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Met Ile Val Ala Ser Gly Tyr Asp Leu
290 295

<210> 12

<211> 345

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:CONSENSUS

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<223> Xaa=Leu or Met

<220>

<221> UNSURE

<222> (3)

<223> Xaa=Leu or Ala

<220>

<221> UNSURE

<222> (4)

<223> Xaa=Thr, Ala, or Gly

<220>

<221> UNSURE

<222> (5)

<223> Xaa=Pro or none

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<221> UNSURE

<222> (6)

<223> Xaa=Trp, His, or none

<220>

<221> UNSURE

<222> (7)

<223> Xaa=Leu or none

<220>

<221> UNSURE

<222> (8)..(9)

<223> Xaa=Ser, Ala, or none

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<221> UNSURE

<222> (10)

<223> Xaa=Ser, Lys, or Pro

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<222> (11)
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<222> (12)
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<223> Xaa=Pro, Thr, or none

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<223> Xaa=Val, Leu, or Asn

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